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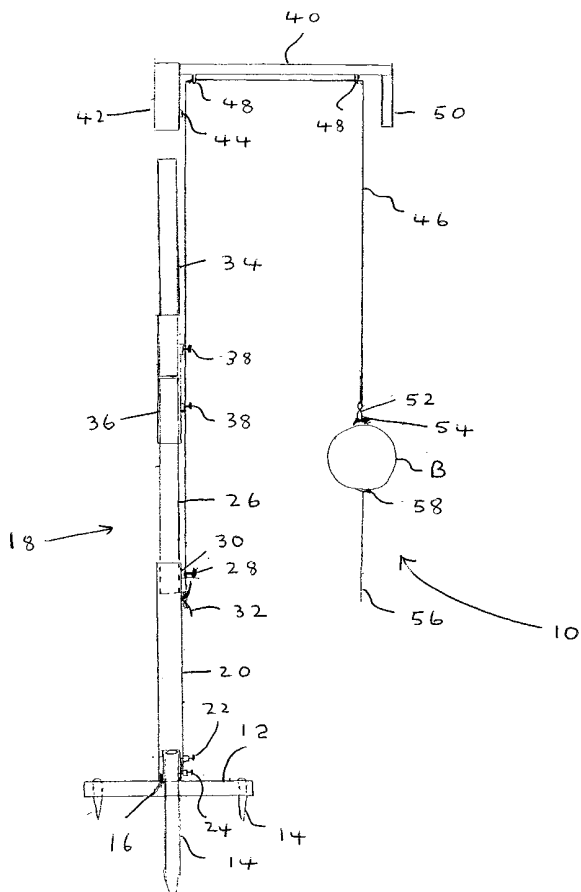
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- (71) Applicant and
(72) Inventor: **PALFRAMAN, Steven, John** [ZA/ZA]; 21 Al-
bion Road, Rondebosch, 7700 Cape Town (ZA).
- (74) Agents: **HAHN, Hans, H.** et al.; Brian Bacon & asso-
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Newlands, 7700 Cape Town (ZA).
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(54) Title: SPORTS TRAINING APPARATUS



(57) Abstract: Sports training apparatus is disclosed which en-
ables sportsmen to train for various sports on the same apparatus.
The apparatus includes a pole (18), an arm (40) protruding from
the upper end of the pole and a tether (46) extending through
two guides (48). The tether (46) is secured at a tie-off (32) on
the pole (18) so that the length of the tether hanging down from
the arm can be varied. The ball (B) is secured to the free end of
the tether. A second tether (56) can also be provided.

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SPORTS TRAINING APPARATUS

FIELD OF THE INVENTION

THIS INVENTION relates to a sports training apparatus.

BACKGROUND TO THE INVENTION

The concept of hanging a ball from an overhead support so that it can be struck has long been advocated by sports coaches as a training method. The well known game "swing ball" uses a ball tethered to a vertically extending coil spring which is at the upper end of a pole. The tether is connected at one end to the ball and at the other end to a ring through which the wire constituting the coil spring passes. The ball is struck using bats similar to table tennis bats and the ring moves up and down the turns of the coil spring as the ball rotates around the pole. Whilst swing ball is primarily a game it does train the user in eye-hand co-ordination, specifically in respect of racquet sports.

The present invention seeks to provide a multi-purpose sports training apparatus.

BRIEF DESCRIPTION OF THE INVENTION

According to one aspect of the present invention there is provided sports

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training apparatus which comprises an arm, means for supporting one end of the arm, a tether for a ball, means for guiding the tether along said arm so that the tether hangs down from the other end of the arm, means at the free end of the part of the tether which hangs down for enabling a ball to be releasably attached thereto, and means for tying the tether-off so that the amount which hangs down from the arm can be varied.

The apparatus can further include a hoop and means for mounting said hoop on said other end of said arm.

In this form the apparatus can further include a board and means for mounting said board onto said other end of the arm so that it stands vertically above and behind said hoop.

According to a further aspect of the present invention there is provided sports training apparatus which includes a tether for a ball and a plurality of balls, the tether carrying a first component of a releasable connection means and each ball carrying a second component of said releasable connection means whereby any one of the balls can be releasably attached to said tether.

At least one of the balls can have means for attaching two tethers to it, and there is a second tether for anchoring the ball at a remote location.

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In this form of the apparatus the tether can hang downwardly from an arm, there being means for tying the tether-off so that the length of it which hangs down can be varied. The tether can hang down from one end of the arm and there can be means for supporting the other end of the arm. The supporting means is preferably a pole.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention, and to show how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings in which:-

Figure 1 diagrammatically illustrates sports training apparatus in accordance with the present invention;

Figure 2 diagrammatically illustrate an accessory for the apparatus of Figure 1;

Figures 3 and 4 are a front view and a side view of a board;

Figure 5 illustrates a modified form of the accessory;

Figure 6 illustrates a mounting; and

Figure 7 illustrates a modified mounting for a tether.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring firstly to Figure 1 the apparatus illustrated is designated 10. The apparatus includes a stand 12, the stand 12 being in the form of a disc or in the form of a cross. In both forms there is an array of pins 14 protruding down from a lower face.

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These pins can be forced into the ground to locate the stand. The pins can be removable so that the stand can be used on a surface into which it is not desirable to insert the pins. In such circumstances sand bags on top of the stand can be employed to prevent it moving when the apparatus is used. A short tube 16 extends upwardly from the top face of the stand.

The stand also includes a three part pole 18. The lower part of the pole is designated 20 and its lower end receives the tube 16. Two radially extending screws 22 and 24 fasten the pole part 20 to the tube 16. To provide the requisite stability one of the screws can pass through the pole part 20 and bear on the tube 16. The other screw can pass through the pole part 20 and the tube 16 and bear on the centre pin 14.

The upper end of the part 20 telescopically receives the lower end of the an intermediate pole part 26. Once the part 26 has been inserted into the lower part 20 to the desired extent, they are secured together by means of a screw 28 which passes through a tapped bore in a boss 30 which is secured to the outside of the pole part 20. The radially inner tip of the screw 28 bears on the outside face of the pole part 26. If vertical adjustment is not required, the pole parts 20, 26 can have transverse bores therein, which, once aligned, receive a transverse connecting pin (not shown).

Means to which a tether (which will be described hereinafter) can be tied-off is shown at 32.

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An upper pole part 34 is also provided, the pole part 34 being connected to the pole part 26 by a sleeve 36. The sleeve 36 carries two radially extending screws 38 which pass through the sleeve and bear on the pole parts 34, 26.

The pole 18 can, if desired, be in two parts instead of the three illustrated.

The apparatus further includes an arm 40, the arm 40 having a depending socket 42 at one end. The socket 42 receives the upper end of the pole part 34 and a further screw 44 is provided for securing the pole part 34 to the socket 42. A strengthening brace (not shown) can extend from the arm 40 to the socket 42. The pole 18 constitutes means for supporting one end of the arm 40.

A tether 46 for a ball passes through front and rear guides 48 so that it extends along the arm 40. At the end of the arm 40 remote from the socket 42 the tether 46 hangs down. At its other end the tether 46 is tied-off on the pole 18 by way of the tie-off 32. The tether 46 can be in the form of a cord.

A short tube 50 protrudes downwardly from the end of the arm 40 that is remote from the socket 42.

At the free end of the tether 46, that is, the lower end of the part thereof which hangs down from the arm 40, there are means in the form of a releasable

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connector 52 for enabling a ball to be releasably attached to the tether. Any suitable form of connector can be used. Thus a spring loaded clip of the type that is provided on, for example, dog leads to secure the lead to a ring on a dog collar can be used.

The apparatus further includes a plurality of balls B e.g. a football, a tennis ball, a cricket ball, a rugby / American Football ball, a golf ball, a hockey ball or a baseball. In the context of this specification a boxing “pear” or other structure which can be hit or kicked is considered to be a ball. Each ball carries a ring 54 which is fastened to it so that, by opening the clip, the ring can be inserted and the ball suspended. The connector 52 and ring 54 constitute the first and second components of releasable connection means. The ring on the ball can be of metal but a softer material such as cord is preferred.

The tether 46 can be wound in or let out so that the amount which hangs down can be varied. It is then tied-off to the means 32. The length of the tether which hangs down depends on what type of ball is suspended on it. For a golf ball the tether will be let out so that the ball is on the ground. For football it can be at almost any height depending whether kicking or heading is being practised.

Particularly for use in practising golf swings, but also for cricket, baseball and any other sport where the ball is hit hard, the ball can have a second tether 56 connected to it. The second tether 56 extends forwardly or downwardly from the ball,

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that is, away from the player, and is anchored to the ground. The second tether 56 can be anchored to the ground by means of one or more pegs driven into the ground or can be attached to a clip which is itself attached to a floor of wood or concrete.

The tether 56 prevents the ball swinging up and over in an arc, and also limits its travel. The ball preferably has a second ring 58 constituting means for attaching the second tether 56 to it, or both tethers can be connected to the same ring.

One of the tethers or both the tethers can be of elasticated form so that it (or they) resiliently slows movement of the ball and then pulls it back to its initial position.

A golf ball can be secured by running a short cord through the ball, the cord entering at the pole and emerging at the equator. At each end of the short cord there are means for connecting it to the tethers 46, 56. This ensures that the golf club head does not come into contact with any metal parts that may be used.

To provide additional facilities it is possible to remove the arm 40 and attach a hoop 60 (Figure 2) to the upper end of the pole part 34. The hoop 60 is attached by a strut 62 and two braces 64 to a tube 66. The tube 66 is itself secured to a parallel tube 68. The tubes 66 and 68 respectively carry radially extending fastening screws 70 and 72. The screw 72 enables the tube 68 to be secured to the pole part 34.

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A board 74 is shown in Figures 3 and 4, the board being attached to a short tube 76. The board can include a wood or perspex sheet 78 and a metal frame 80 to which the sheet 78 and the tube 76 are attached. The tube 76 fits in the tube 66 and is secured by the screw 70, these components constituting means for mounting the board 74 on the end of the arm 40 remote from the socket 32, so that it stands vertically above and behind the hoop.

For storage purposes the sheet 78 can be constituted by two parts. The frame 80 can also be in two parts which are secured together by hinges. Once the sheet 78 and frame 80 are unfolded, toggle clamps or the like (not shown) can be used to maintain the board parts in position.

In Figure 5 the tube 50 is shown inserted into the upper end of the tube 68 so that it is mounted on the end of the arm 40 remote from the socket 32. Hence the hoop 60 is positioned at a distance from the pole 18 determined by the length of the arm 40. The board 74 is shown mounted above the hoop 60.

For use in a gymnasium or other indoor area, a wall mounting 82 (Figure 6) can be provided. The wall mounting 82 comprises a metal plate 84 which can have a backing layer of fabric 86. On the front face of the plate 84 there is a vertically extending tube 88 with two fastening screws or wing nuts 90. The tube 88 also has a tie-off 92 secured thereto. The tie-off 92 is similar to the tie-off 32. Bolts 94 or other

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fastening means enable the plate 84 to be secured to a wall. The lower end of the pole part 34 is slid into the tube 88 from above and secured at the requisite height by the screws or nuts 90.

In Figure 7 an alternative form of securing arrangement for the tether 46 is shown. A short tube 96 has a plate 98 secured to the upper end thereof. An integrally threaded socket or externally threaded rod 100 is secured to the top face of the plate 98. A further plate 102 with a compatible rod or socket 104 secured to the lower face thereof is screwed onto the plate 98. The socket / rod combination passes through a ring 106 to which the tether 46 is secured.

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CLAIMS:

1. Sports training apparatus which comprises an arm, means for supporting one end of the arm, a tether for a ball, means for guiding the tether along said arm so that the tether hangs down from the other end of the arm, means at the free end of the part of the tether which hangs down for enabling a ball to be releasably attached thereto, and means for tying the tether-off so that the amount which hangs down from the arm can be varied.
2. Sports training apparatus as claimed in claim 1 and which includes a hoop and means for mounting said hoop on said other end of said arm.
3. Sports training apparatus as claimed in claim 2 and further including a board and means for mounting said board onto said other end of the arm so that it stands vertically above and behind said hoop.
4. Sports training apparatus which includes a tether for a ball and a plurality of balls, the tether carrying a first component of a releasable connection means and each ball carrying a second component of said releasable connection means whereby any one of the balls can be releasably attached to said tether.
5. Sports training apparatus as claimed in claim 4, wherein the tether hangs

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downwardly from an arm, there being means for tying the tether-off so that the length of it which hangs down can be varied.

6. Sports training apparatus as claimed in claim 5, wherein the tether hangs down from one end of the arm and there are means for supporting the other end of the arm.

7. Sports training apparatus as claimed in claim 4, 5 or 6, wherein at least one of the balls has means for attaching two tethers to it, and there is a second tether for anchoring the ball at a remote location.

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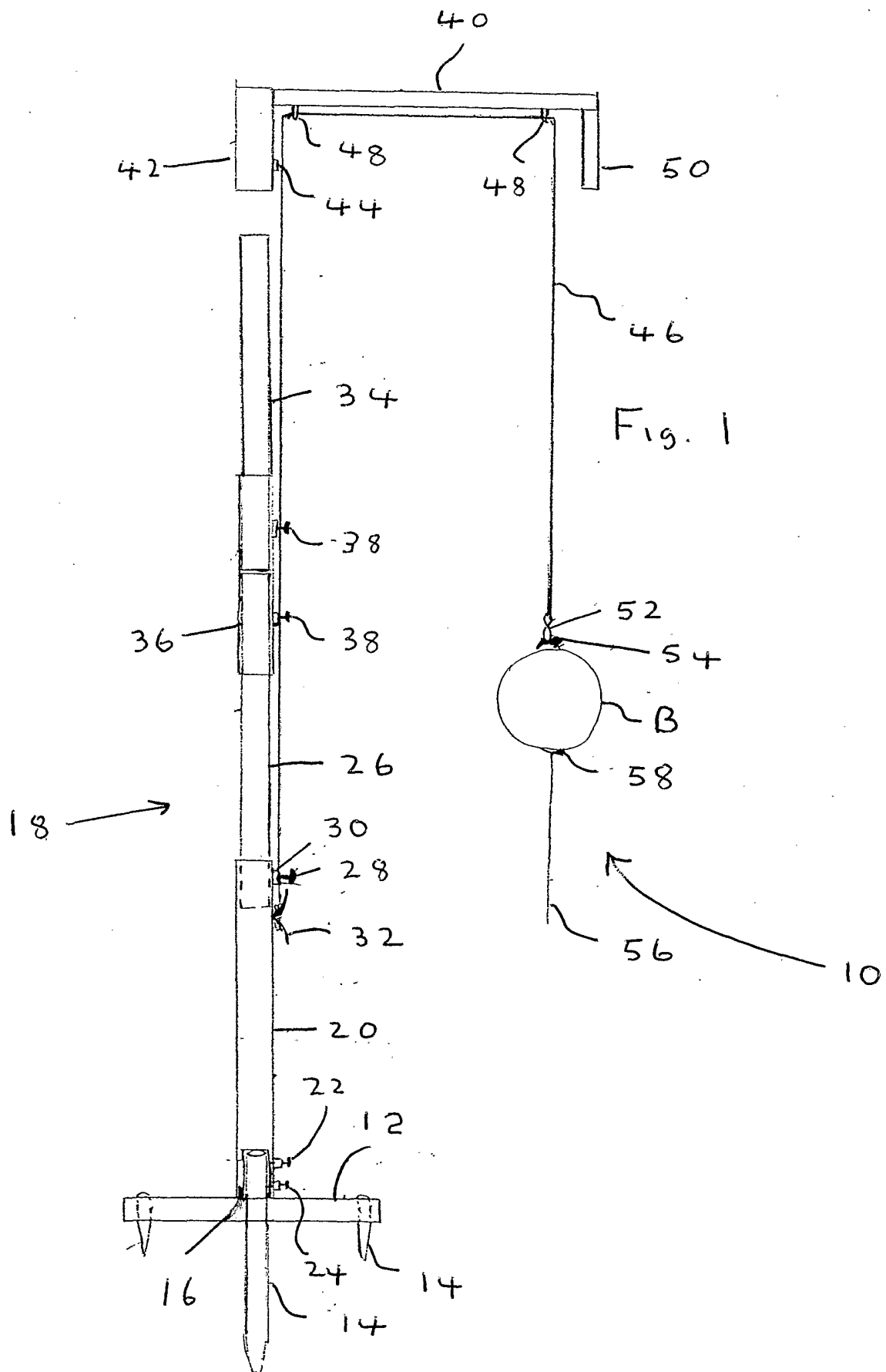


FIG. 2

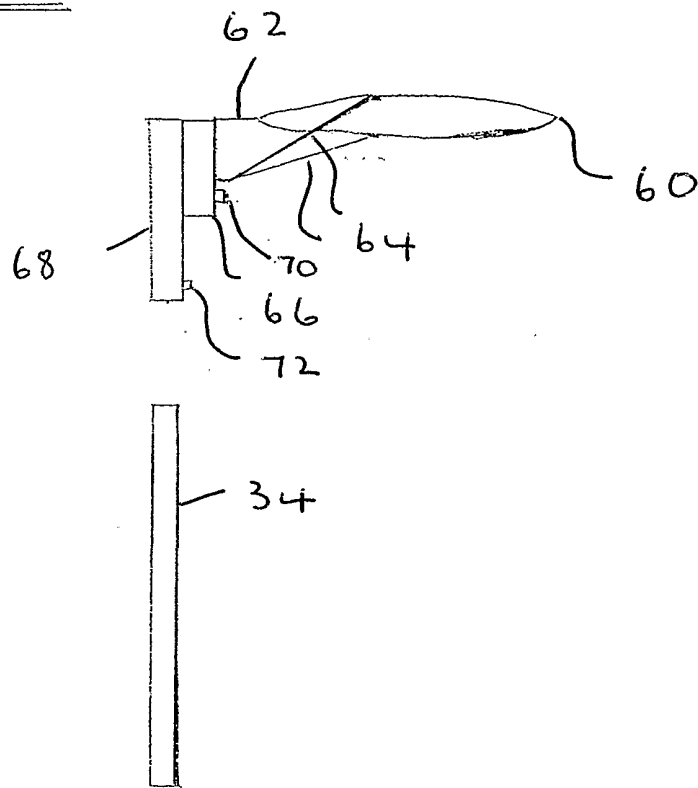


FIG. 3

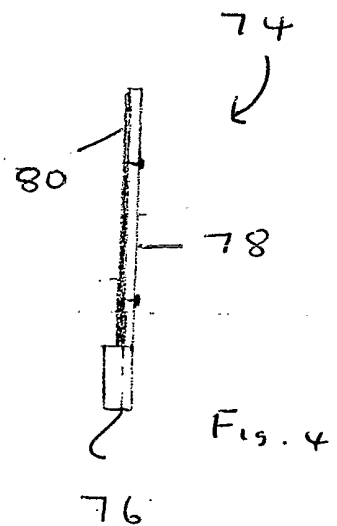
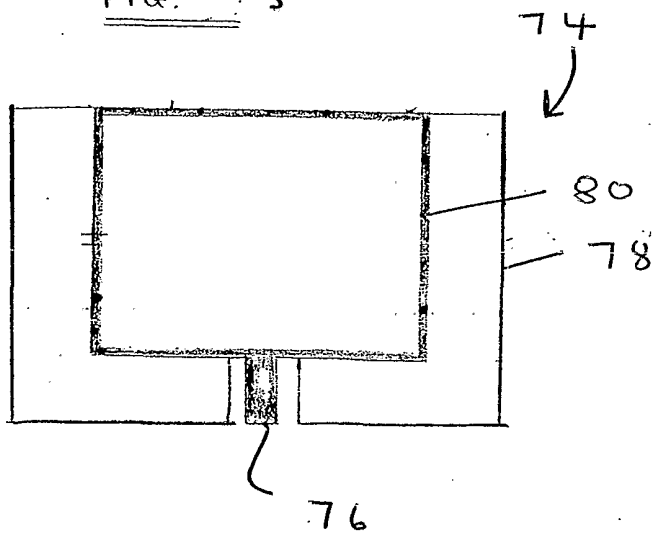


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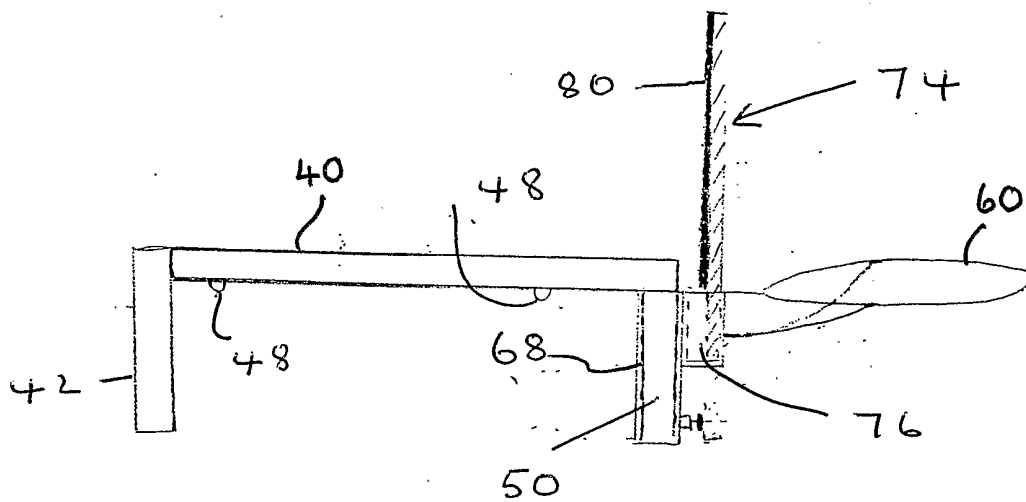
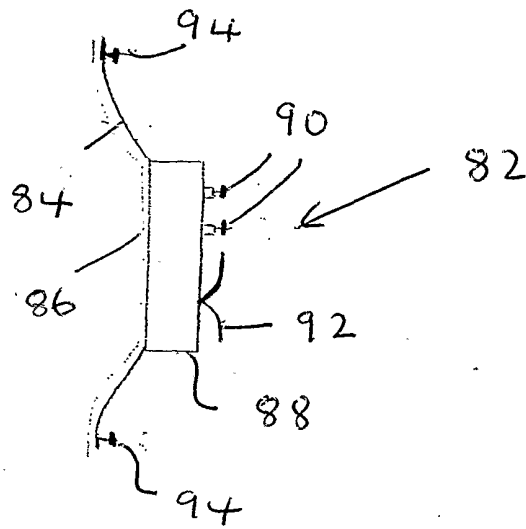
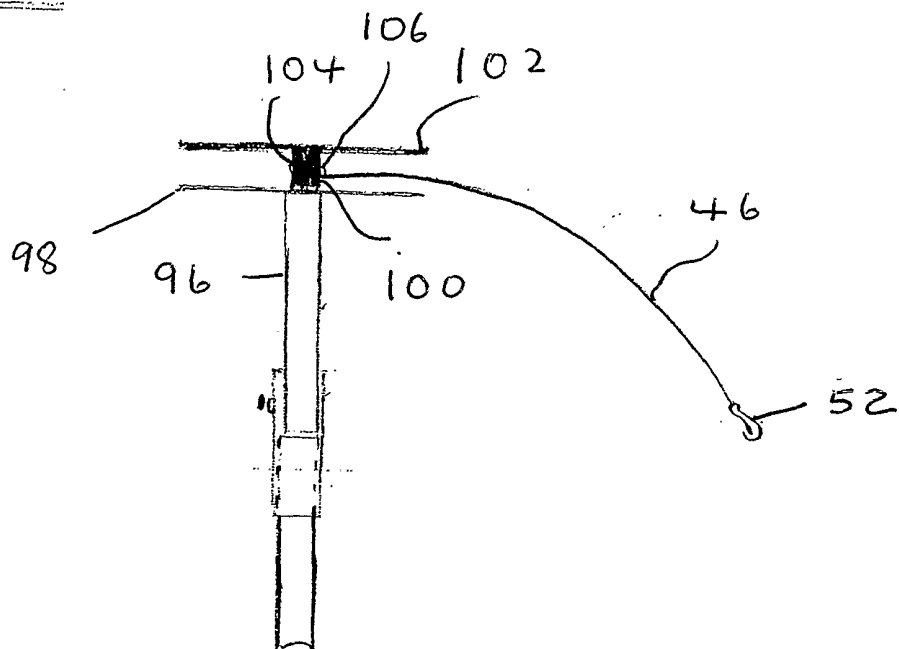


FIG. 6FIG. 7

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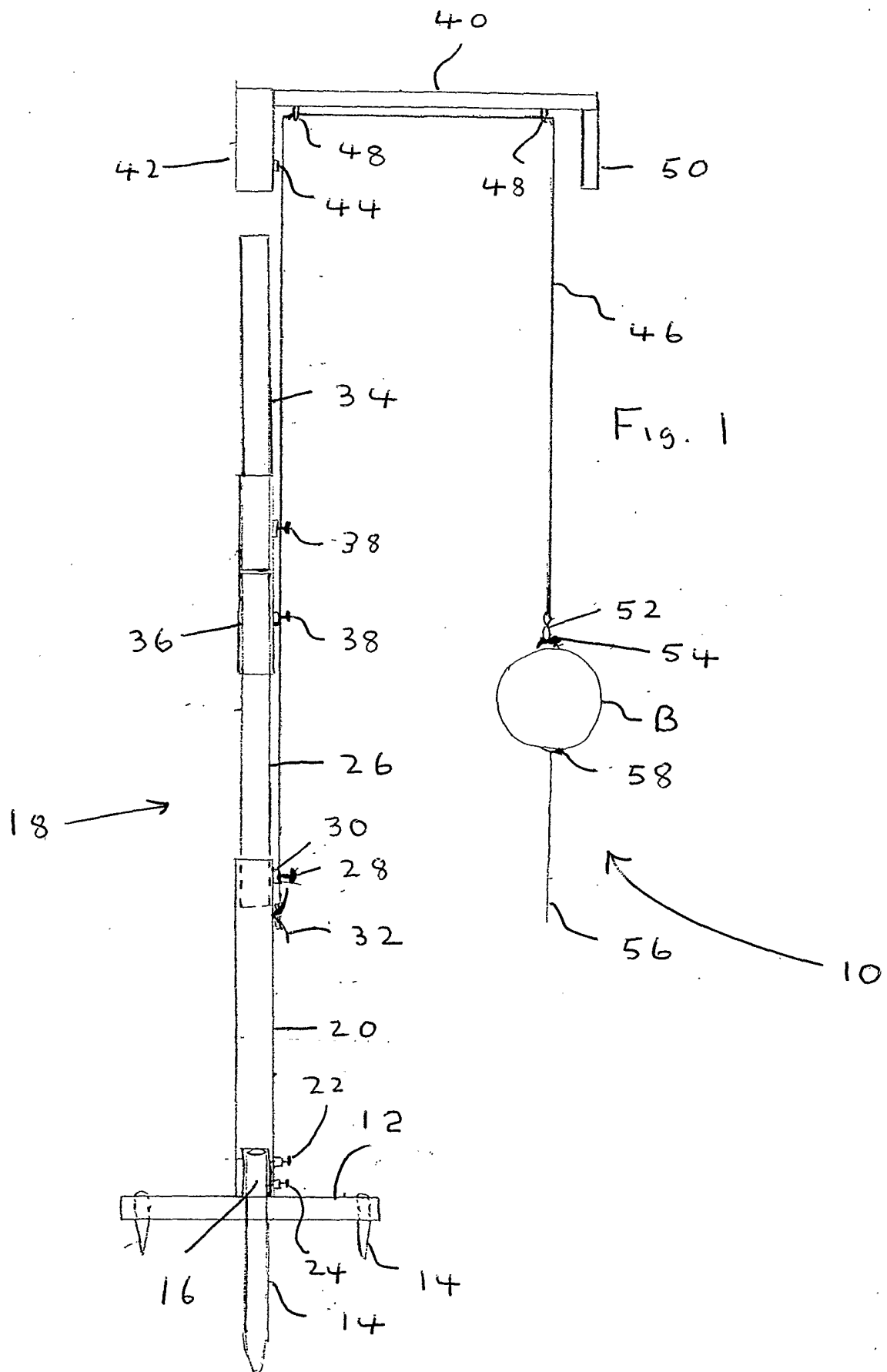


FIG. 2

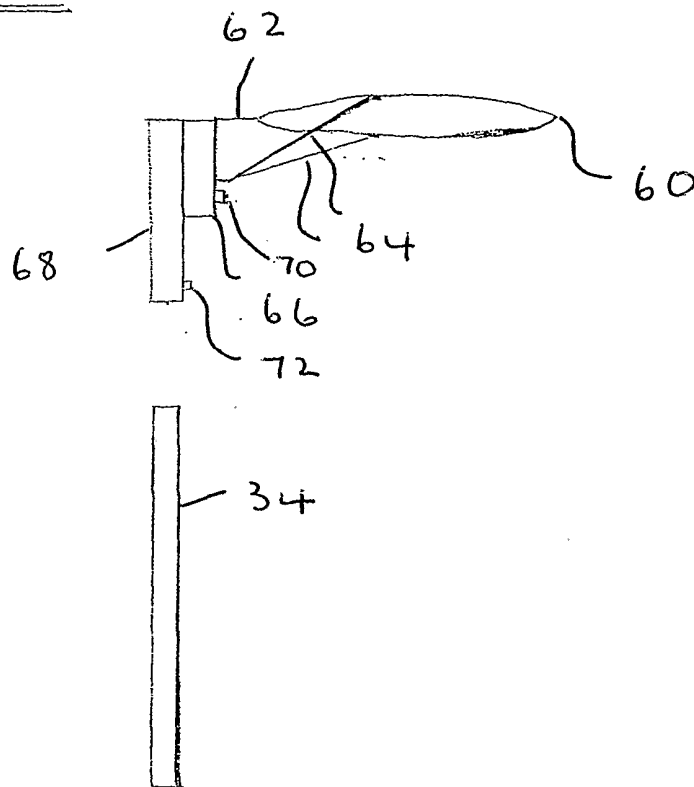


FIG. 3

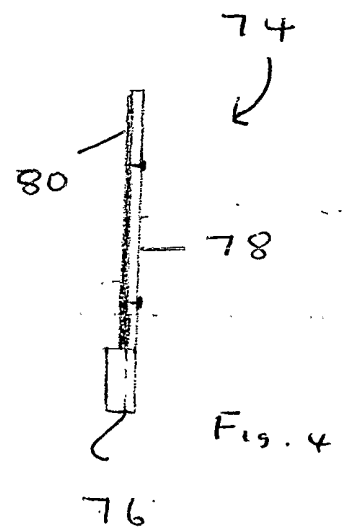
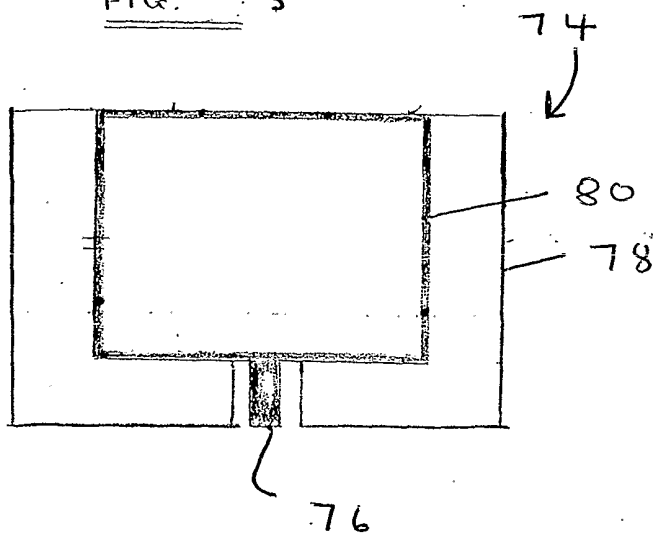


FIG. 5

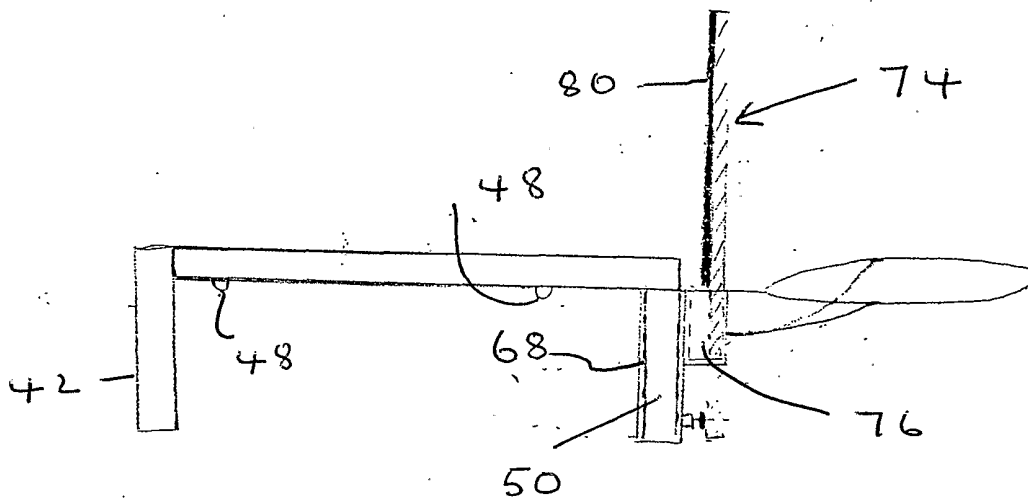


FIG. 6

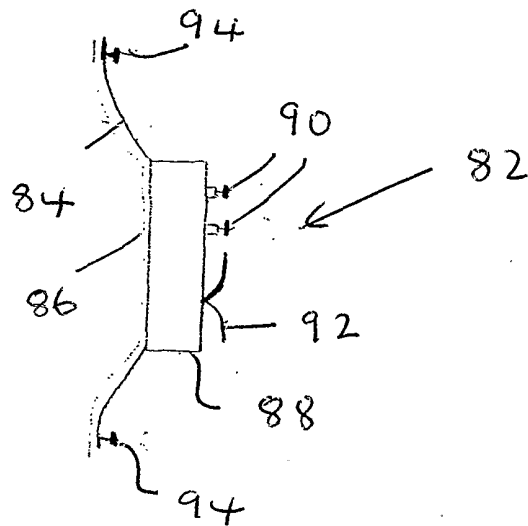
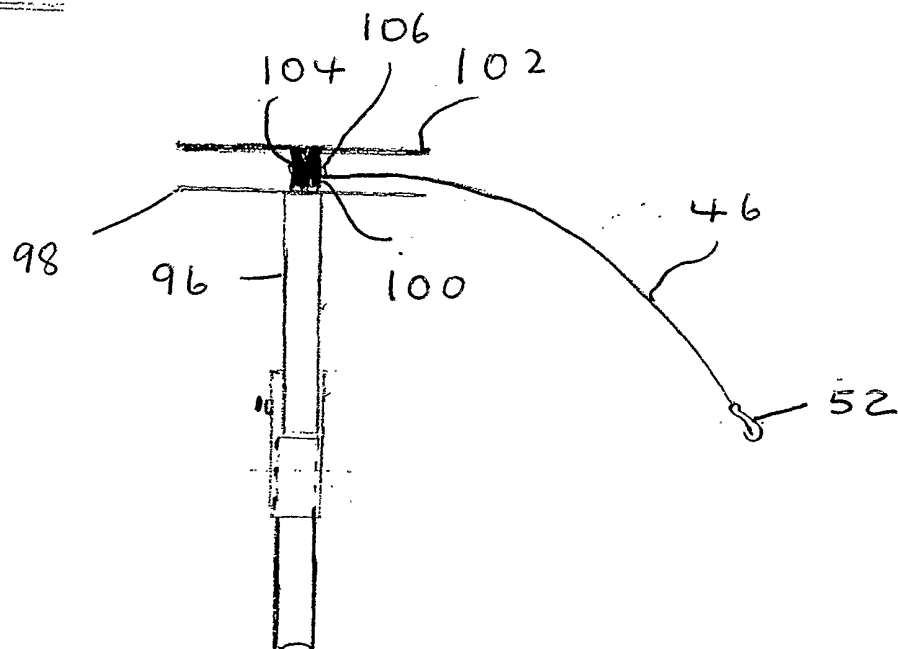
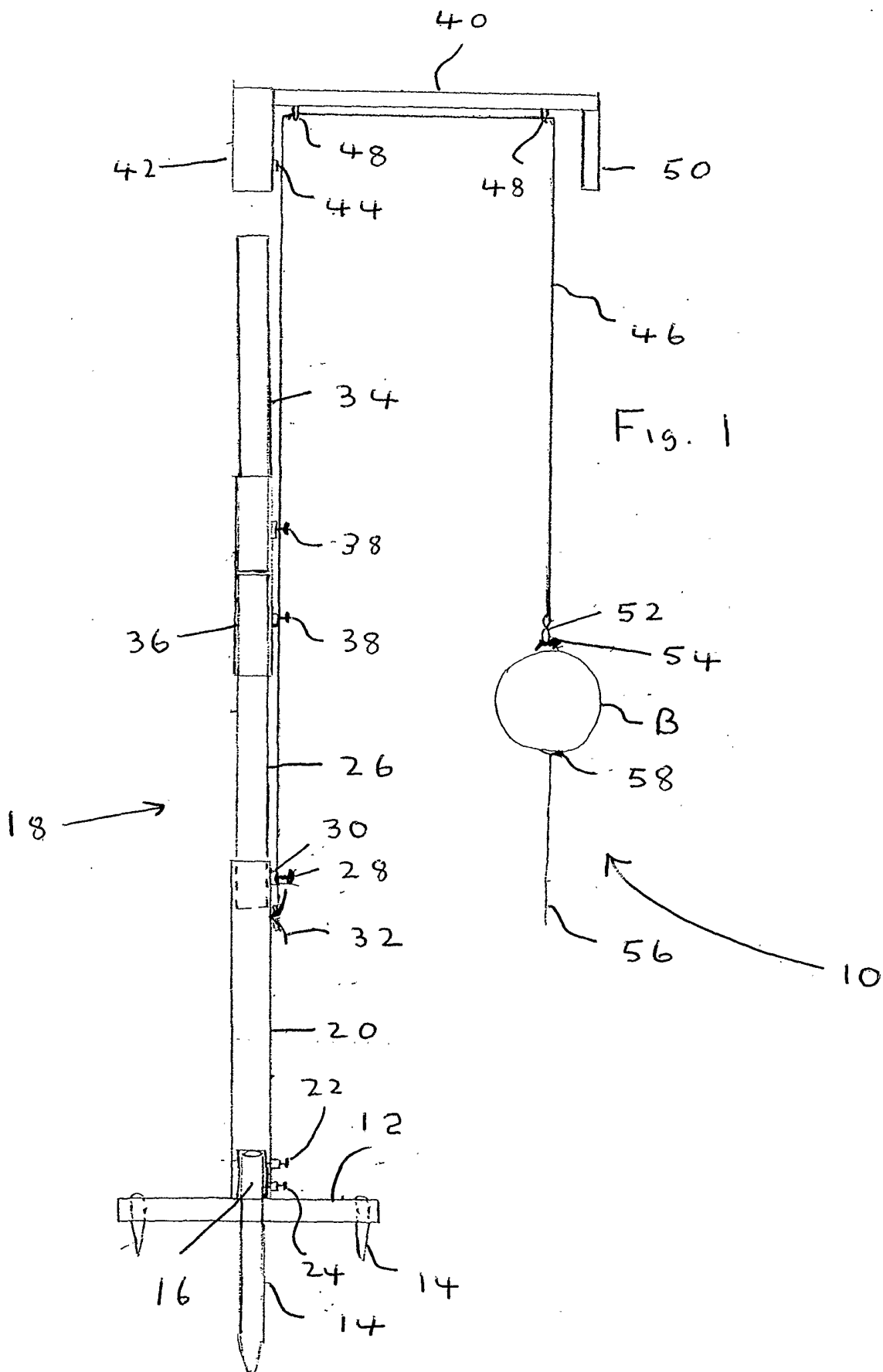


FIG. 7



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FIG. 2.

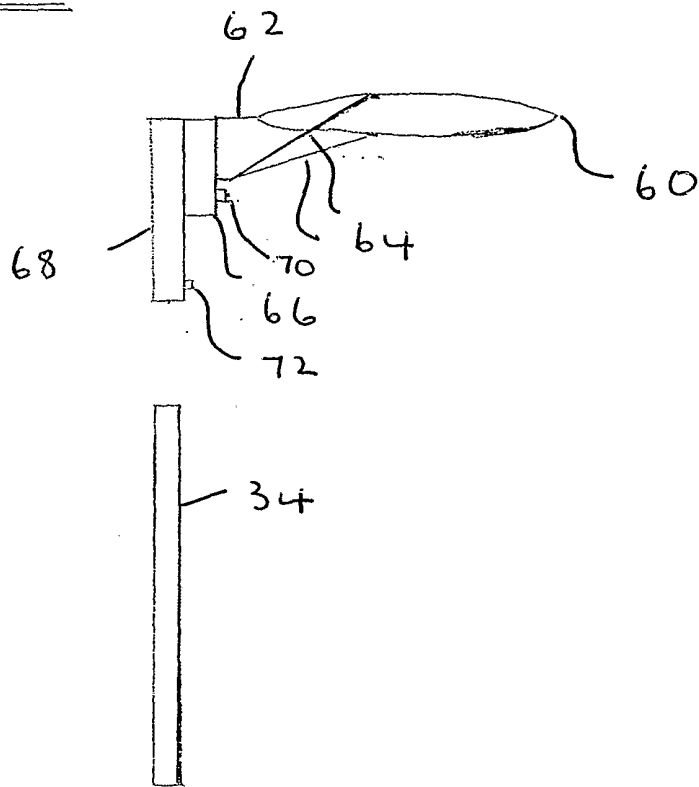


FIG. 3

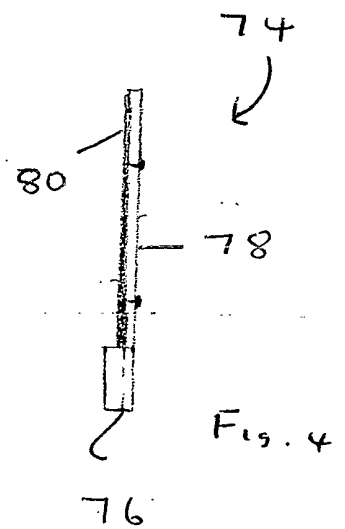
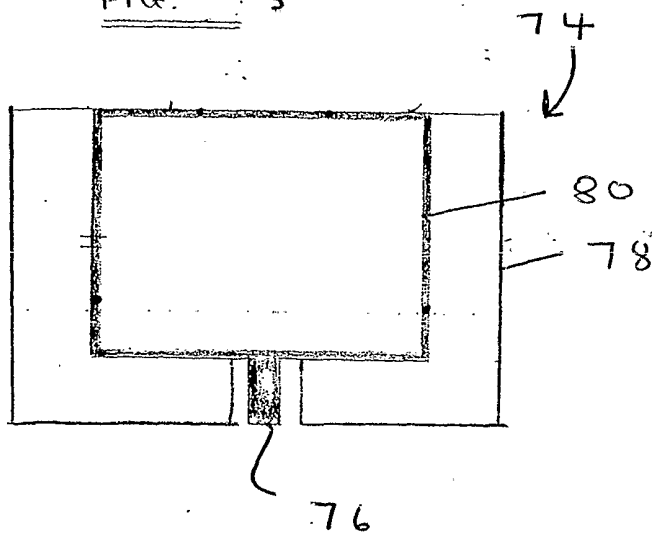
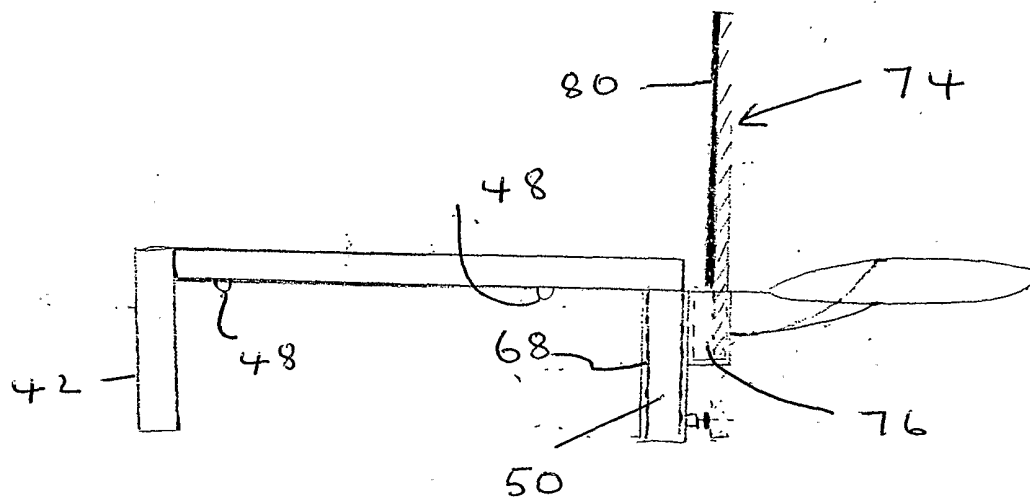
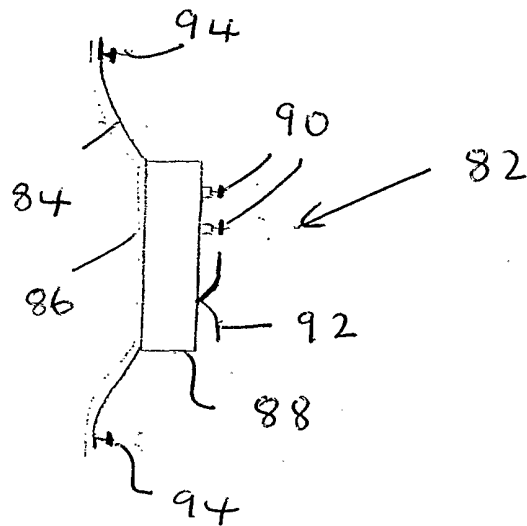


FIG. 5



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FIG. 6FIG. 7